component to the circuit board by hardening the insulating resin of the anisotropic conductive layer interposed between the electronic component and the circuit board while correcting warp of the board and crushing the bump with a pressure force of not smaller than 20 gf per bump applied to the electronic component against the circuit board with heating by means of the tool (8), so that the electrode of the electronic component is electrically connected with the electrode of the circuit board.

12. An electronic component mounting method as claimed in ~~any one of~~ claims 10 ~~through 11~~, wherein

the device (93, 193) for forming the gold ball (96a) has the capillary, which has a tip shape provided with no flat portion to be brought in contact with the gold ball and of which a chamfer angle (θc) is not greater than 100°, and the gold bump that has an approximately conically shaped tip is formed on the electrode of the electronic component by the capillary.

13. An electronic component mounting apparatus comprising:

a device (7, 109, 200, 201) for sticking an anisotropic conductive layer (10), in which an insulating resin mixed with an inorganic filler is mixed with a conductive particle (10a), to a circuit board (4) or an electronic component (1);

a device (93, 193) for forming a bump (3, 103), without leveling, by forming a ball (96, 96a) by an electric spark at a tip of a metal wire (95) on an electrode (2) of the electronic component (1) similarly to wire bonding and forming this on the electrode of the board by means of a capillary (93, 193);

a device (600) for mounting the electronic component on the electrode (5) of the circuit board (4) through positional alignment; and

a device (8, 9) for hardening the insulating resin interposed between the electronic component and the circuit board while correcting warp of the board with a pressure P1 applied as a pressure force to the electronic component against the circuit board and heat applied from an upper surface of the electronic component by means of a tool (8) heated to a specified temperature and subsequently bonding the electronic component to the circuit board while alleviating a stress caused when hardening the insulating resin of the anisotropic conductive layer by reducing the pressure force to a pressure P2 lower than the pressure P1 after a lapse of a specified time, so that the electrode of the electronic component is electrically connected with the electrode of the circuit board.

14. An electronic component mounting method as claimed in ~~any one of~~ claims 1 ~~through 3~~, wherein a mean

particle diameter of the inorganic filler mixed with the insulating resin of the anisotropic conductive layer is not smaller than 3 μm.

15. An electronic component mounting method as claimed in ~~any one of~~ claims 1 ~~through 3 and 14~~, wherein the inorganic filler mixed with the insulating resin of the anisotropic conductive layer is comprised of at least two types of inorganic fillers (6f-1, 6f-2) that have a plurality of different mean particle diameters, and a mean particle diameter of one inorganic filler (6f-1) out of at least two types of inorganic fillers is not less than two times different from a mean particle diameter of the other inorganic filler (6f-2) out of at least two types of inorganic fillers.

16. An electronic component mounting method as claimed in ~~any one of~~ claims 1 ~~through 3~~, ~~14 and 15~~, wherein the anisotropic conductive layer has a portion brought in contact with either the electronic component or the board, the portion having a smaller amount of inorganic filler than that of the other portion.

17. An electronic component mounting method as claimed in claim 15, wherein the anisotropic conductive layer has a portion brought in contact with both the electronic component and the board, the portion having a smaller amount of inorganic filler than that of the other